

# **The Deep South Center for Occupational Safety & Health**

## **Summary Annual Report July 1, 2010 - June 30, 2011 NIOSH Training Grant T42OH008436**

Submitted by:  
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Center Director

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The Deep South Education and Research Center is a consortium of programs at the University of Alabama at Birmingham (UAB) and Auburn University (AU). The mission of the Deep South Center is to develop professionals who protect and promote the health and safety of workers through interdisciplinary education, research, and outreach programs, and our goal is to be a center of excellence that promotes occupational safety and health to serve the needs of Alabama, Georgia, Mississippi, Tennessee, and the Florida panhandle.

The Center's Administrative Core, Continuing Education (CE), and Hazardous Substance Training (HST) programs are located at the UAB School of Public Health. The academic and research programs of the ERC include:

- Industrial Hygiene (IH) and Hazardous Substance Academic Training (HSAT) programs in the UAB School of Public Health
- Occupational Health Nursing (OHN) and a NORA research program in the UAB School of Nursing
- Occupational Safety and Ergonomics (OSE) and Occupational Injury Prevention Research Training (OIPRT) programs in the AU Samuel Ginn College of Engineering

**Administrative Core – Dr. Riedar K. Oestenstad, Center Director** [orestk@uab.edu](mailto:orestk@uab.edu)

The Administrative Core includes the Center Director, Dr. Riedar K. Oestenstad, the Deputy Director, Dr. Elizabeth Maples, support staff, an Executive Committee, and an external Board of Advisors. The Administrative Core incorporates the Outreach and Diversity programs, directed by Dr. Maples, Pilot Project Research Training (PPRT) program, directed by Dr. Ed Postlethwait, and Interdisciplinary Coordination. The Executive Committee includes the Center Director, Deputy Director and all of the Program Directors. The committee meets monthly to review progress in achieving program goals, student progress, plan short-term Center activities, and conduct long-term strategic planning. The Board of Advisors consists of 22 members with a self-elected chair, and includes representatives from industry, the military, healthcare, government agencies and labor unions, and are from all of the states in our region. The committee meets at least annually with the Executive Committee and, in a separate executive session, is provided with periodic updates from the Deputy Director.

**Outreach – Dr. Elizabeth H. Maples, Program Director** [ehm@uab.edu](mailto:ehm@uab.edu)

The highlight of our ERC's Outreach Program is the annual Summer Institute in Environmental and Occupational Safety and Health. The program is specifically designed for undergraduate students pursuing degrees in engineering, health sciences and physical sciences. Each year, the majority of participants have been from minority groups. It is an interdisciplinary program that includes a trip to a manufacturing facility or plant operation, hands-on sessions with industrial hygiene equipment, medical surveillance tools, and hands on with ergonomic tools and anthropometric measurement exercises. In April 2011, Dr. Maples traveled to Ghana to participate in a symposium on lessons learned from the Deepwater Horizon oil spill.

**Diversity – Dr. Elizabeth H. Maples, Program Director** [ehm@uab.edu](mailto:ehm@uab.edu)

The Diversity program maintains a database on Historically Black College and Universities (HBCUs) in our region. The HBCU database is used to invite college and university faculty and graduate students to attend annual research days and symposia in our region, inform them of PPRT funding opportunities, and invite undergraduate students to attend the Summer Institute.

**Interdisciplinary Activities – Program Director, Dr. Elizabeth H. Maples** [ehm@uab.edu](mailto:ehm@uab.edu)

Interdisciplinary activities continue to be an important Center priority, and all of the Center's Program Directors are involved in these activities. The Center's Board of Advisors has an interdisciplinary composition with representatives from all of the occupational safety and health core disciplines. The primary methods of achieving interdisciplinary interaction among students include common academic courses, workplace evaluation field trips, seminars, research projects, and clinical activities. The capstone interdisciplinary

activities are two worksite evaluation courses; one in each semester of the academic year. Students are required to work in interdisciplinary teams in this course to evaluate real-world safety and health problems, and propose methods to reduce or eliminate identified hazards.

**Pilot Project Research Training – Program Director, Dr. Ed Postlethwait [EPostlethwait@uab.edu](mailto:EPostlethwait@uab.edu)**

The PPRT program funded five applications in 2009-2010. Award recipients were:

- *Characterization of wood smoke exposure in wild-land fire-fighters*, Olorunfemi Adetona Ph.D. student, University of Georgia
- *Oxidative damage in occupationally exposed radiation workers*, Rupkatha Bardhan, MPH student, University of Alabama at Birmingham
- *The role of genes in occupational low back pain*, Nirathi Keerthi Govindu, Ph.D. student, Mississippi State University
- *Cognition, and medication use in older truck drivers*, Karen Heaton, Assistant Professor, University of Alabama at Birmingham
- *Foundations for Avatar-based posture analysis and manual work task design*, Woojin Park, Assistant Professor, Auburn University
- *Improving work zone safety through dynamic message sign content modification*, Lesley Strawderman, Assistant Professor, Mississippi State University

**Continuing Education & Hazardous Substances Training – Program Director, Dr. Elizabeth H. Maples [ehm@uab.edu](mailto:ehm@uab.edu)**

The Continuing Education and Hazardous Substances Programs offered 47 programs in MS, AL, TN and FL during the 2010-2011 year. Over 1500 participants were involved in short courses offered in classroom and web-based formats. Partnerships were essential to maximize resources with the ERC; collaboration took place with statewide and regional professional organizations, academic units, and non-profit organizations to offer training opportunities. The Deep South Center collaborated with the Sunshine and UNC ERCs to offer a Research to Practice Symposium at the Workers' Compensation Conference in Orlando, FL that was well attended and featured presentations by faculty from all three ERCs and researchers from NIOSH. A collaborative effort by the University of Texas Health Science Center at Houston (A NIOSH ERC) and the University of Texas Health Science Center at Tyler (A NIOSH TPG) and Deep South ERC, led to an occupational medicine workshop in San Antonio, TX.

**NORA Research Program – Program Director, Dr. Kathleen Brown [brownk@uab.edu](mailto:brownk@uab.edu)**

The fourth year of the five year clinical trial to investigate the effectiveness of occupational health nursing case management in improving outcomes for workers with hypertension and elevated cholesterol was completed in 2010-2011. The target number of 308 research participants were recruited, and all cohorts of participants will be completing the interventions during year five.

**Industrial Hygiene and Hazardous Substances Academic Training – Program Director, Dr. Claudiu Lungu [clungu@uab.edu](mailto:clungu@uab.edu)**

The IH program had four masters and five PhD students enrolled in 2010-2011, and graduated two masters students and one doctoral student. In addition, two doctoral students passed their written and oral qualifying examinations and were admitted to candidacy. Student achievements included four students presenting student posters at the AIHC&E in Denver, CO, and one doctoral student gave a podium presentation. Dr. Maples was recognized for her contribution to the field of safety and health by receiving the Alabama ASSE Safety Professional of the Year award in January 2011. IH/HSAT faculty had five peer-reviewed publications in 2010-2011.

**Occupational Health Nursing – Program Director, Dr. Karen Heaton [kharnp@uab.edu](mailto:kharnp@uab.edu)**

The OHN program had thirteen masters and three doctoral students enrolled in 2010 -2011; with four masters students graduated. Faculty achievements included Dr. Phillips' increased involvement with AAOHN on a national level, via presentations and appointment to the advocacy committee. Dr. Brown participated as a panel member in the IOM Workshop on Respiratory Protection Curriculum for Occupational Health Nursing Programs. Dr. Heaton received an extramural grant award, and was a planning committee and panel member at the 1st International Conference on Commercial Driver Health and Wellness. A significant achievement of the OHN program was the development of two new courses that received high course evaluations: Principles and Practice of Occupational Toxicology and Disease, and Evaluation and Management of Occupational Health and Safety Programs.

#### **Occupational Safety & Ergonomics – Program Director, Dr. Jerry Davis, [davisga@auburn.edu](mailto:davisga@auburn.edu)**

Occupational Safety & Ergonomics – Program Director, Dr. Jerry Davis, [davisga@auburn.edu](mailto:davisga@auburn.edu), Deputy Program Director, Dr. Rich Sesek The OSE program had 20 masters and 9 doctoral students enrolled in 2010-2011; with six masters and one doctoral student graduating. There were significant faculty changes during the year: Dr. Jerry Davis continued as the OSE Program Director, Sean Gallagher was hired (to begin January, 2012), and Dr. Woojin Park left the OSE faculty August, 2011. The board of regents approved a graduate certificate in Occupational Safety and Ergonomics (which appears on student transcripts). During this period, 16 OSE Graduate Certificates were earned (8 by NIOSH trainees and 8 by others demonstrated the impact and leverage of the OSE program).

#### **Occupational Injury Prevention Research Training – Program Director, Dr. Rich Sesek [rfs0006@auburn.edu](mailto:rfs0006@auburn.edu)**

The OIPRT program had four doctoral students enrolled during the 2010-2011 academic year. One student graduated in 2010 and another joined OIPRT in 2010. There are currently 3 OIPRT doctoral students with expected graduation in 2013. Interdisciplinary interactions with Deep South Center faculty have been emphasized, particularly epidemiology instruction with Dr. Waterbor.

#### **2010-2011 Enrollment and Graduation Data for Center Academic Programs**

Program	Masters					Doctoral				
	Full-Time Trainees	NIOSH- Supported Trainees	Part-Time Trainees	Part-Time NIOSH- Supported Trainees	Graduated	Full-Time Trainees	NIOSH- Supported Trainees	Part-Time Trainees	Part-Time NIOSH- Supported Trainees	Graduated
IH	4	3	0	0	2	5	5	0	0	1
HSAT	3	2	0	0	1					
OHN	11	8	7	3	4	1	1	3	3	1
OSE	20	8	4	0	7	6	2	2	0	1
OIPRT						4	4	0	0	1
Totals	38	23	11	3	14	16	12	5	3	4

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